KE2100 INSTALL GUIDE

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1 Check Items in Box

• KE2100

• Handset

• Rj11 handset line

• User manual

• One power adapter

• Ethernet (RJ45) cable(Pass through cable)

2 Before Installation

Please check to be sure that you have all of the following components:

• An AC power socket

• Broadband internet access that can reach the VoIP service provider's platform

• PC with network card (not required)

• Network connection to the VoIP service provider's platform must have:

Network delay less than 400ms

Network Jitter less than 100ms

Packet loss less than 10%

Bandwidth: more than 30Kbps

3 Picture and connection

POWER:	LAN:	WAN:
Connect to power adapter	Connect to local network e.g. PC. Default work type: Router.	Connect to Internet, may need special RJ45 cable; please ask your network administrator or ISP.

4 Installation

• Connect KE2100 and handset with Rj11 handset line

• Power off your network device e.g. ADSL Modem，Cable Modem and PC

• Connect cables as shown in chapter 3, suggestion: do not use KE2100 as your main router of your network

• Power on your KE2100, then power on your network device and PC

• Change your PC's IP to DHCP (server assigned). (Please ask your network administrator how to set your PC)

5 Buttons and input

• SET/OK: Get into control menu, confirm

• △ / ▽: Select

• ◁ / ▷: Volume increase/ decrease; while in input mode: delete/ blank

• ESC: Exit, cancel

• M1~M8: Speed dial key

• XFER: Call transfer function key

• MUTE: Mute function key

• REDIAL: Redial key

• CONF: 3-way calling function key

• CALLLIST: Call list function key

• PHONEBOOK: Phone book function key

• CALL: Call out

• HOLD: Hold function key, VoIP do not disturb function key

• SPEAKER: Hands free key

Use Keypad to set this device:

Key	Input Character
1	1 - , ! ?
2	2 a b c A B C
3	3 d e f D E F
4	4 g h I G H I
5	5 j k I J K L
6	6 m n o M N O
7	7 p q r s P Q R S
8	8 t u v T U V
9	9 w x y z W X Y Z
0	0 '空格'
*****	*. : @
#	

6 Authentication

For admin user:

Account: root

Password: test

For normal user:(With this account you can not set some parameters, e.g. SIP setting)

Account: user

Password: test

Attention: if your password be changed when you get your device, please contact with the distributor of this device.

7 Use phone to set net work parameters

Please check chapter 12 to know how to use the LCD and keypad for programming.

At first, please ask for your network administrator or ISP to know your IP type. The default network setting of this device is DHCP IP type, if your network can not accept DHCP access, please set it as follows:

• LCD programming: Network → WAN Setup → IP type to select your IP type.

• If your device should use static IP, please use LCD programming: Network → WAN Setup → Fixed IP setting to set IP address, subnet mask and default gateway. After then get into LCD programming: DNS → Primary DNS and Secondary DNS to set DNS server

If your device should use PPPoE, e.g. ADSL, please use LCD programming: Network → WAN Setup → PPPoE setting to set the PPPoE account and Password.

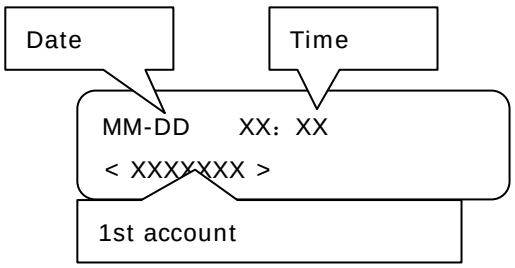
• Press ESC repeatedly till it show 'Please Reboot', then power off the device and power on it.

8 Automatically get configuration

If your VoIP service provider has pre-set your device, it should automatically get configuration from the Internet after it is powered on. And then it will reboot automatically and ready for use.

9 Ready for use

Your device should be ready for use now, it will show these information on LCD.



If your device isn't the ready to use status, it means you should set it your self. Please see chapter10 and 11 if you should set if yourself.

10 Use phone LCD programming to set

Refer to chapter 12 to learn how to set LCD programming: SIP Settings and NAT transversal, then ask your VoIP service provider how to set/select these parameters. Keep the default parameters if you haven't got the answer for how to set/select some of these parameters.

• LCD programming: Administrator → System Authent, input the password of root account. (See chapter 6)

• LCD programming: SIP Setting and set all parameters here.

• LCD programming: NAT transversal → STUN setting and set all parameters here.

• LCD programming: Phone setting → Date/Time set set all parameters here.

• Press ESC repeatedly till it show 'Please Reboot', then

power off the device and power on it.

11 Set though the web based programming page

After your PC getting correct IP, open an Internet Explorer browser on a PC that is connected to **http://192.168.123.1** You will see the login screen. Please see chapter 6 for account and password.

11.1 Network Settings

Click and into the menu **Network→ WAN Settings** and **Network→ LAN Settings** to set the network parameters. Please ask your ISP or network administrator about it.

DHCP is default network type; your terminal will get the required network parameters such as IP, subnet mask automatically. If your network uses static IP, you should set local IP, subnet mask, gateway IP, DNS and DNS2 first. If your network uses PPPoE, you should set PPP ID, PPP password first

11.2 Set time and SNTP server

Click and into the menu **Phone Setting→ SNTP Settings** to set your NTP server and time zone.

Important: If your service provider has pre-programmed some settings such as User Name, Register Name, Register Password, Domain Server, Proxy Server and so on, you will not need to program these items.

11.3 SIP Settings

After you have the IP setting completed as above, you should set these parameters which are required to login SIP server: User Name, Register Name, Register Password, Domain Server, Proxy Server, SIP Port, RTP Port, DTMF setting.

11.4 Save Settings and Reboot

Simply click the **Save** button in **Save Changes** and exit the browser after the Configure OK screen appears, and then click **Reboot** button in **Reboot**.

12 LCD menu

1st layer	2nd layer	3rd layer	4th layer	Usage
Phone book	Search			
	Add entry			
	Speed dial			Set M1~M8 speed dial number
	Erase all			1. Yes 2. No
Call history	Incoming calls			Check incoming call list
	Dialed numbers			Check dialed call list
	Erase record	All		
		Incoming		
		Dialed		
Phone setting	Call forward	All forward	Activation	1. Enabled 2. Disable
			Number	
		Busy forward	Activation	1. Enabled 2. Disable
			Number	
		No answer fwd	Activation	1. Enabled 2. Disable
			Number	
	Do Not disturb	Always		1. Enabled 2. Disable
		By Period		1. Enabled 2. Disable
		Period Time		If the end time is earlier than the begin time, it means the DO NOT DISTURB duration will from beginning time to next day's end time.

	Alarm setting	Activation		1. Enabled 2. Disable
		Alarm time		
	Date/Time set	Date & Time		If SNTP disabled then can set local date and time
		SNTP setting	SNTP	1. Enabled 2. Disable
			Primary SNTP	Primary SNTP server
			Secondary SNTP	Secondary SNTP server
			Time zone	
			Adjustment Tim	Time display model 12 hour or 24 hour
	Volume & Gain	Handset volume		
		Speaker volume		
		Handset gain		
		Speakser gain		
	Ringer	Ringer volume		
		Ringer type		
	Auto dial			After this time, the dialed number will be automatically send out
	Show Balance			1. Enabled, only support VoIP provider who use INFINET plateform 2. Disable
Network	WAN Setup	IP Type		1.Fixed IP client 2.DHCP client 3.PPPoE client
		Fixed IP setting	IP Address	
			Subnet mask	
			Default Gateway	
		PPPoE setting	User name	
			Password	
	LAN Setup			1. Bridge, work as a bridge 2. NAT, work as a router
	DNS	Primary DNS		Primary DNS server
		Secondary DNS		Secondary DNS server
	VLAN	Activation		1. Enabled 2. Disable
		VID		
		Priority		
		CFI		
	Status			Router mode:1st line shows LAN IP, 2nd line shows WAN IP, press △/▽ to show MAC address Bridge mode: 1st line shows WAN IP, 2nd line shows MAC address
SIP Setting	Service domain	First realm	Activation	1. Enabled 2. Disable
			User name	Number

			Display name	
			Register name	User name
			Register passw	Password
			Proxy server	SIP server address
			Domain server	SIP realm
			Outbound proxy	Outbound proxy server
		Second realm	...	
		Third realm	...	
	Codec	Codec type		Select codec
		VAD		1. Enabled 2. Disable
	RTP setting	RTP	Outband DTMF	1. Enabled, use RFC2833 as DTMF type 2. Disable use inband as DTMF typr
	Duplicate RTP			1. No duplicate 2. One duplicate 3. Two duplicate
	RPort			1. Enabled, use RTP port setting 2. Disable, use random RTP port
	Hold by RFC			1. Enabled 2. Disable
	Status			Check accounts register status
NAT transversal	STUN setting	STUN		1. Enabled 2. Disable
		STUN server		
Administrator	Auto config			1. Disable 2. TFTP, use TFTP mode 3. FTP, use FTP mode 4. HTTP, use HTTP mode
	Upgrade system	Upgrade Now		1. Yes 2. No
		Upgrade via		1. Disable 2. TFTP, use TFTP mode 3. FTP, use FTP mode 4. HTTP, use HTTP mode
		Status		Version status
		Reset Time		
	Default setting			1. Load default, **Attention: the device will lose account and server setting** 2. Abort
	System Authent			Input root account's password, see chapter 6
	Version			Version status
	Watch dog			1. Enabled, device will auto reset if it there is a software problem 2. Disable
	Restart			

13 WEB menu

1st layer	2nd layer	Description
Phonebook	Phone Book	Add, edit, delete phone book
	Speed Dial Settings	Set M1~M8 speed dial number, suggestion: do not change the settings of 0 and 9
Phone Setting	Call Forward	Set all forward, busy forward and no answer forward here. No answer forward is based on the ring time. You can set duration of a ring tone in: Others → Tones Setting
	SNTP Settings	Use SNTP server to set your time, set SNTP sever and time zone
	Volume Settings	Handset, speaker and ringer volume setting
	Melody Settings	Select the melody of the ringer
	DND Settings	VoIP do not disturb setting, if the end time is earlier than the begin time, it means the DO NOT DISTURB duration will from beginning time to next day's end time
	Dial Plan Settings	See reference guide chapter 1.10
	Call Waiting Settings	Attention: Call waiting function can not work when you use busy forward function
	Hotline Settings	
	Alarm Settings	
Network	Status	Check the status of your network connection
	WAN Settings	Select router/ bridge mode and set WAN network parameters
	LAN Settings	Set LAN network parameters if use router mode
	DDNS Settings	Set a DDNS server parameter, please ask your network administrator or your VoIP service provider
	VLAN Settings	Please let your network administrator set it
SIP Settings	Service Domain	Set VoIP service account information and server information. If it request to define a special port on the server, please set it as the following example: xxx.xxxxxx.xxx(server address):xxxxx(port number)
	Port Settings	Set the local SIP port and RTP port of your device
	Codec Settings	Please ask your VoIP service provider
	Codec ID Settings	Please ask your VoIP service provider
	DTMF Settings	Please ask your VoIP service provider Attention: If the setting is not correct, you may not dial a extension number
	Other Settings	Set Call Hold type, SIP and RTP Qos parameters and SIP expire time
NAT	STUN Settings	Please ask your VoIP service provider
Others	Auto Config	Set auto config server and mode
	Tones Settings	
	Advanced Settings	Set ICMP feed back signal on/off, Private call on/off, Flash signal on/off, encrypt type, PPPoE retry period and log parameter
System Auth.		
Save Change		
Update	New Firmware	
	Auto Update	Set auto new version check and upgrade parameters
	Default Settings	Attention: You will lose all the settings in the device especially including account and server information
Reboot		

14 FAQ

Problem	Possible Cause	Solution
Unacceptable voice quality under VoIP	Your internet connection bandwidth is less than 30Kbps	Please use your phone in a good quality network.
	Unstable network connection: Network delay > 400ms or network trembling > 100ms or network packet loss > 10%	
Show 'No Service' on the LCD	The network is blocked	Please contact network service provider or network administrator to ensure the network and ports are available, and the data is not modified or filtered. If there are problems left, please contact your service provider for technical support.
	You haven't set any account/ service information	
	The connection to the server's SIP port is modified or filtered	
	Your network has a proxy server which is blocking the terminal's connection to the internet.	
	The data to the terminal's SIP port is modified or filtered	
	Your terminal is configured with incorrect account information.	Please correctly enter account and password. If there are problems left, please contact your service provider for technical support.
	Your terminal is configured with an incorrect server address.	Please contact your service provider for technical support

15 Performance and Features

15.1 The Electronic Specifications

- Voltage: 5V DC, 1A
- Power adapter: AC input 100~120V (USA, Japan etc.) or 220~240V (China, Europe etc.) or 100~240V, 47-63Hz
- Network interface: IEEE 802.3 10/100 Base-T
- EMC: FCC Part15 CLASS B /CE

15.2 Operating/storing Environment

- Operating temperature: 0 to 50° C
- Storing temperature: -10° to 65° C
- Humidity: 10% to 90% non-condensing

15.3 Dimensions

- 208 × 197 × 68mm (L × W × H)

15.4 Features

- Basic Port——two RJ45 ports compatible with IEEE 802.3 10/100 Base-T, can be use as ROUTER/BRIDGE.
- Power adapter— AC input 100~120V (USA, Japan etc.) or 220~240V (China, Europe etc.) or 100~240V, 47-63Hz
- Log-in to specific soft-switch platform
- Automatic searching for soft-switch platform
- Supports DHCP: Automatically obtain local IP, subnet mask, gateway IP
- Supports PPPoE
- Automatic Gain Control
- Voice Active Detection
- Comfortable Noise Generation
- Echo Cancellation
- Half duplex speaker
- Dynamic Buffer Management—minimize effect to voice quality caused by audio delay jitter
- Support NAT Traversal
- Supports SIP
- Supports Remote Upgrade
- Lightning proof
- Support Tos

- Support G.711 fax

15.5 Standards and Agreements

- IEEE 802.3 10/100 Base-T
- G.711A, G.711μ, G.723.1 5.3K/6.3 Kbps，G.726 and G.729
- Impedance: Can be Selected
- SIP
- TCP/IP: Internet Transport and Control Protocol
- RTP: Real-time Transport Protocol
- RTCP: Real-time Control Protocol
- AGC: Automatic Gain Control
- VAD/CNG Voice active detection/comfortable noise generation
- G.165 Echo cancellation
- DTMF Tone Generate and Detection：Inbound
- DHCP: Dynamic Host Configuration Protocol
- PPPoE: Point to Point Protocol of Ethernet
- DNS: Domain Name Server
- FTP: File Transfer protocol
- HTTP: Hyper Text Transfer protocol
- TFTP
- DDNS